H.004273.5 June 5, 2013
I-49 Connector
(Lafayette Regional Airport to I-10/US 167/I-49 Interchange)
Routes US 90 and US 167
Lafayette Parish

This DRAFT advertisement for engineering and related services is being posted to allow the consultant community ample time to review and comment on the proposed scope of services, to form teaming arrangements and to allow direct communication with DOTD staff.

Please note that this is a draft document and subject to change during the development of the Request for Qualification Statements.

It is requested that all communication concerning this document be in writing via email addressed to:
edward.wedge@la.gov

**PROJECT DESCRIPTION**

The project is located in the city of Lafayette. The overall project includes construction of a freeway with accompanying interchanges in the Evangeline Thruway US 90/US 167 corridor and flanking collector/distributor roads for local traffic circulation and land access. The project begins just south of the Lafayette Regional Airport and continues north to the I-10/US 167/I-49 interchange, a length of approximately 5 miles. The Selected Alternative presented in the Final Environmental Impact Statement (FEIS) and approved in the Record of Decision (ROD) is the Lafayette Consolidated Government's (LCG) locally preferred alternative, which has been identified as RR-4 Elevated in conjunction with the MPO Subalternative and Subalternative H. The Selected Alternative shown in the FEIS and ROD includes:

- Five miles of mainline freeway of which approximately 3 ½ miles are elevated
- One three level directional interchange at Kaliste Saloom Road, majority of interchange on structure
- Two full diamond interchanges at University/Surrey Street and Willow Street
- Two single point diamond interchanges at Johnston Street and 2nd/3rd Street with associated railroad grade separations and arterial cross street studies involved
- Various cross street connections at Pinhook Road, Jefferson Street, Mudd/Simcoe Street, Donlon Street, Castille/Martin Luther King Road, and several minor streets.

**SCOPE OF SERVICES**

The scope of this contract is to provide all preconstruction engineering services for the construction of a freeway from the Lafayette Regional Airport (near route LA 728-2) to the I-10/US 167/I-49 Interchange. The goal of the project is to design and construct the freeway and connecting infrastructure within the parameters and commitments (attached) of the Selected Alternative presented in the FEIS and approved in the ROD with consideration of Structures Concepts and Context Sensitive Solutions (CCS) offered by the community.

The services to be rendered for this Contract will consist of the following Stages and Parts:

Stage 3: Design
- Part I: Surveying Services
  - (a) Topographic Survey
  - (b) Title Research Reports
  - (c) Property Survey
  - (d) Title Updates
  - (e) Right-of-Way (R/W) Maps
  - (f) Title Take-Off
- Part III: Preliminary Plans (Road, Bridge and Lighting)
- Part IV: Final Plans (Road, Bridge and Lighting)

Stage 5: Construction Engineering Service
- Part I: Construction Support
- Part II: Shop Drawings

In addition to the above Stages and Parts, the following services will be required:

- Subsurface utility engineering (SUE)
- Geotechnical
- Landscape Architecture and Arborist Services

- Electrical design services
- Design and possible preparation of the airport safety plan and Safety Management System (SMS) services, in communication with the Lafayette Regional Airport for the runway/taxiway displacement and related services
- Public Outreach
- Traffic Engineering Analysis Services
- Geometric Design and Traffic Services
- Re-evaluation of the environmental document

. In addition to the above Stages and Parts, the following services may be required:

- Interchange Justification Report (IJR) and/or Interchange Modification report (IMR)
- Transportation Management Plan (TMP)
- Identification of potential funding sources/scenarios
- Preparation of Cooperative Endeavor Agreements (CEA), Memorandum of Understanding (MOU), etc.
- Permitting activities

**STAGE 3: DESIGN**

The services to be performed by the Consultant under this Contract are described more specifically as follows:

**Part I (a) Topographic Survey** shall consist of all services required to make a complete topographic survey, in English units of measure, as required for the proper design and layout of the Project. The DOTD's requirements which shall govern this survey are specified in the current edition of the DOTD's Location and Survey Manual. Although currently acceptable surveying standards and methods, as approved by the Location and Survey Administrator, may be used. The Consultant shall request, in writing, from the Project Manager a copy of this manual for the Consultant's information and guidance as to normal DOTD procedures in the conduct of topographical surveys. Deviations from the normal procedures must be authorized in writing by the Project Manager.

The survey shall include, but not be limited to the staking of centerline when required and when physically possible and, where this is not possible, to the running of all ground traverses necessary to compute and establish centerline. Aerial photogrammetry may be used when feasible and by written agreement with the DOTD in developing the topographic surveys. This work shall include, for the control of the field survey and later use, the establishment of referenced iron rods along the Project, as may be necessary, to define the centerline and of a referenced system of bench marks on a closed level circuit. The survey shall also include the location and establishment of ownership of all utilities in the way of construction as specified in the manual. The Consultant's attention is specifically directed to the requirement in the manual whereby a sketch of the survey line shall be submitted to the DOTD Location and Survey Administrator for approval immediately after the initial establishment of said line and prior to proceeding further with the survey. The Project survey control and horizontal alignment shall be based on the Louisiana State Plane Coordinate System, (NAD-83), as determined by G.P.S. observation.

**Part I (b) Title Work** shall consist of obtaining the necessary Title Research Reports. Title work will be performed by a consultant listed on the LADOTD Real Estate Section's approved Title work Panel list.

The term "Title Research Report" is defined as a report of the ownership of the current property owner(s) with addresses, acquisition data, assessment and tax information, description of the property, conveyances of full ownership, conveyances of other rights (servitudes, leases, restrictions, etc.), existing R/W, recorded plats, and copy of the last acquisition. One Title Research Report shall be obtained for each parcel.

The original and three paper copies and one electronic copy of the Title Research Reports shall be furnished to the Location and Survey Administrator along with the Final R/W Map submittal, for forwarding to the Real Estate Section.

**Part I (c) Property Survey** shall consist of all Investigations, Studies, and Field Property Surveys required for the preparation of Base R/W Map. The Field Property Survey shall be based on the same survey control as the Topographic Survey. Upon completion of the property survey, the consultant will notify the Location and Survey Administrator, in writing, and provide an electronic text file listing coordinates and descriptions of all found monuments, a "PDF" copy of all documents (plats, maps, etc) used to determine property line locations and a "PDF" copy of title take-offs or title research reports used to determine property line locations. Consultant shall also provide a sketch in Microstation and "PDF" formats showing all surveyed property lines and existing right of way with ties to project centerline.

**Part I (d) Title Updates** shall consist of obtaining Updates of the originally acquired Title Research Reports, if the Reports are more than six months old. These Updates shall be used in the preparation of the final R/W Maps and also by the DOTD's Real Estate Section in acquiring title to the property required for the construction project.

**Part I (e) R/W Maps** shall consist of all services required to complete the Base and Final R/W Maps, described more specifically as follows:

The Base R/W Map shall show the adopted project centerline, all existing R/W, limits of construction, appropriate topography (residences, commercial buildings, structures, etc.), parcel line locations and ownerships, and required taking lines, with ties to the adopted project centerline. Individual parcel metes and bounds and precise area calculations are not required at this time, however, the approximate area of each required parcel and remaining area shall be determined and shown on the Base Map. These Maps shall be in the same standard format and shall form the basis for the Final R/W Map. Specifically, this work shall be performed in accordance with all principles and objectives set forth in the latest issue of the DOTD's Location and Survey Manual, although currently acceptable surveying standards and methods, as approved by the Location and Survey Administrator, may be used. For purposes of a joint review meeting, the Base R/W Map along with one copy of each of the Title Reports used in preparation of the Base R/W Map, shall be furnished at approximately 60% completion, and reviewed by a DOTD Team. Appropriate revisions recommended for inclusion in the Final R/W Map shall be addressed by the Consultant.

The Final R/W Map preparation shall include all activities necessary to complete the Final R/W Map and shall be performed in accordance with the requirements specified in the latest issue of the DOTD's Location and Survey Manual. The Final R/W Map shall be the Base R/W Map as described above, and shall also include all revisions recommended by the Joint Review Team, parcel metes and bounds, parcel acquisition blocks, parcel areas, remaining areas, Lambert coordinates of all breaks in the required R/W and P.C.'s and P.T.'s of curves, and shall be accompanied by an electronic file containing the DOTD COGO program input commands for creating parcel descriptions suitable for use by the DOTD's Real Estate Section.

**Part I (f) Title Take-Off** is defined as a report of the deed of ownership of the current property owner, and all survey documents, (plats, maps, etc.) associated with the current ownership deed. One Title Take-Off may be obtained for each parcel if necessary to expedite commencement of field work. The Title Take-Off is not considered a part of the Title Research Report and may be performed by the surveyor.

**Part III Preliminary Plans (Road)** shall consist of all engineering services required for the completion of preliminary roadway plans, and for the construction estimates of the project, all under a schedule for completion which shall be in conformity with the contract time negotiated between DOTD and the Consultant and approved by the Project Manager. Preliminary road plans shall be for the entire final build out as shown in the Selected Alternative presented in the FEIS and approved in the ROD or as modified and approved by DOTD during Geometric & Traffic Service phase of the contract.

During the progress of the preliminary road design phase of work, intermediate submissions will be made to the DOTD for review and comment at the 30%, 60% and 90% levels of completion. Comments received as a result of the submissions will be discussed with the DOTD and incorporated into the final submittal of that respective phase as warranted.

The preparation of preliminary road plans for the Project shall be in accordance with the requirements outlined in the latest and current editions of DOTD's Roadway Plan Preparation Manual and Hydraulics Manual. Specifications for the Project shall be in accordance with the latest edition of Louisiana Standard Specifications for Roads and Bridges, amended to comply with the current practices of the DOTD.

**Part III Preliminary Plans (Bridge)** shall consist of all engineering services required for the completion of preliminary bridge plans and cost estimates for the project, all under a schedule for completion which shall be in conformity with the contract time negotiated between DOTD and the Consultant and approved by the Project Manager. Preliminary bridge plans shall be for the entire final build out as shown in the Selected Alternative presented in the FEIS and approved in the ROD or as modified and approved by DOTD during Geometric & Traffic Service phase of the contract.
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During the progress of the preliminary bridge design phase of work, intermediate submissions will be made to the DOTD for review and comment at the 30%, 60% and 90% levels of completion. Comments received as a result of the submissions will be discussed with the DOTD and incorporated into the final submittal of that respective phase as warranted.

All design and drawings will comply with the requirements of the latest AASHTO LRFD Bridge Design Specifications, the DOTD LRFD Bridge Design Manual (including Technical Memoranda and the current edition of the DOTD Standard Specifications). Where it is absolutely necessary to depart from the Standard Specifications or augment them, Special Provisions and/or Non-Standard Item Number requests shall be provided to DOTD.

All drawings will be developed using MicroStation and they shall comply with the DOTD CADD standards.

A list of pre-approved, commercially available software is posted on the Bridge Design website at the following location:
http://www.dotd.la.gov/highways/project_devel/design/bridge_design/documents.aspx?key=2
If any other software is required for unique applications for which pre-approved software cannot be used, a synopsis of the software shall be submitted to the State Bridge Engineer for approval prior to use. The synopsis shall include the name of the software and the developer, a general description of the functions, a certification from the software developer stating that it is maintained in accordance with the lasts AASHTO LRFD Bridge Design Specifications, and an account of the requester's experience and the experience of the other organizations or agencies that use the software. Data/results from in-house software will not be accepted as part of the deliverable.

A major deliverable of preliminary road and bridge plans is recommendation to the Project Manager on the prioritization of Final Plan development and construction projects.

**Part III Preliminary Plans (Lighting)** shall consist of all engineering services required for the completion of preliminary lighting plans and cost estimates for the project, all under a schedule for completion which shall be in conformity with the contract time negotiated between DOTD and the Consultant and approved by the Project Manager. Preliminary lighting plans shall be for the entire final build out as shown in the Selected Alternative presented in the FEIS and approved in the ROD.

During the progress of the preliminary lighting design phase of work, intermediate submissions will be made to the DOTD for review and comment at the 90% level of completion. Comments received as a result of the submissions will be discussed with the DOTD and incorporated into the final submittal of that respective phase as warranted.

All design and drawings will comply with the requirements and format of the DOTD Bridge Design Electrical Section, A Guide To Constructing, Operating, and Maintaining Highway Lighting Systems, ANSI/IES RP-8, IES RP-2098 Lighting for Parking Facilities, IES Lighting Handbook, AASHTO Roadway Lighting Design Guide, DOTD Technical Memoranda and the current edition of the DOTD Standard Specifications, and the National Electrical Code. Where it is absolutely necessary to depart from the Standard Specifications or augment them, Special Provisions and/or Non-Standard Item Number requests shall be provided to DOTD.

All drawings will be developed using MicroStation and they shall comply with the DOTD CADD standards. Software used for illumination shall be nationally recognized and shall use .ies design files. No in-house illumination software shall be accepted.

Lighting services shall also consist of coordination and management of lighting issues among the Lafayette Consolidated Government, DOTD Project Manager, and DOTD Contracts Section to set the scope of roadway, underpass, and aesthetic lighting for the project and for the acquisition of a **Lighting Maintenance Agreement** for said lighting prior to construction.

**Part IV Final Plans (Road, Bridge and Lighting)** shall consist of all services required for the preparation of Final Plans, specifications, and estimates, all meeting the standard requirements of the DOTD as to general format and content. It is anticipated there will be multiple final plan packages for the completion of the Project. A Transportation Management Plan (TMP) will be required as part of the final plan packages.

## STAGE 5: CONSTRUCTION

**Part I Construction Support** shall consist of all services required to review and address all Requests for Information (RFI's) from the DOTD's Construction Contractor that concern plan/specification clarity or plan/specification error. The Consultant shall be required to respond to all RFI's within forty-eight (48) hours.

**Part II Shop Drawings** (includes Cut Sheets and Electrical Operation & Maintenance Manual Review) shall consist of all services required to review all shop drawings, equipment submittals, and lighting Operation & Maintenance Manuals for conformity with the construction contract document, and the distribution of reviewed submittals as per the project distribution list.

## ADDITIONAL SERVICES

**Subsurface Utility Engineering (SUE)** shall consist of all services required to manage certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design.
Except as may be modified or specified herein, or otherwise approved by the DOTD, the collection and depiction of information, and any required submittals, shall conform to the applicable provisions of CI/ASCE 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data." A copy may be obtained from the American Society of Civil Engineers at www.asce.org.

**Geotechnical Services** shall consist of the following:

### Geotechnical Exploration and Investigations

The geotechnical investigations, sampling, and testing services to be provided shall include, but are not limited to:

- Field Reconnaissance (including rights of entry, utility locations, access, etc.);
- Mobilization/demobilization;

- Deep and Shallow Soil borings;
- CPT soundings (ASTM D5778);
- Water table elevations with duration of reading;
- GPS Latitude and Longitude of borings to within 10 ft (3 m) accuracy;
- Sealing boreholes in accordance to LA Water Well and DEQ Regulations;
- Standard Penetration Tests and Split-Barrel Sampling of Soils (AASHTO T 206);
- Unconfined Compressive Strength of Cohesive Soils (AASHTO T 208);
- Specific Gravity of Soils (AASHTO T 100);
- Laboratory Determination of Moisture Content of Soils (AASHTO T 265);
- Triaxial Compression Tests, Unconsolidated, Undrained (AASHTO T 296);
- Triaxial Compression Tests, Consolidated Drained 3-point (AASHTO T 297);
- Atterberg Limits (DOTD TR 428);
- Consolidation Tests with Rebound (AASHTO T 216);
- Organic Content (DOTD TR 413);
- Classification of Soils;
- Deep borings (ASTM D 2487 (USCS method));
- Shallow borings (ASTM D 3282(AASHTO method));
- Drafting of boring logs;
- Drafting of subgrade soil surveys; and
- Traffic Control.

**Drilling and Sampling**

The deep soil borings shall be made by the wet rotary drilling method. In each deep boring, undisturbed samples of cohesive or semi-cohesive material shall be obtained from each distinct soil stratum that is penetrated or 5 ft (1.5 m) interval, whichever is less, using a 3 in. (76 mm) diameter Shelby tube sampling barrel as per AASHTO D 207. When cohesionless soils are encountered at any depth, a split spoon sampler shall be used in conjunction with Standard Penetration Tests (SPT) at 3 foot (1 m) intervals. In the case of massive dense sands being encountered, the Project Manager may be contacted in order to relax the sampling interval, on a case-by-case basis. If requested by DOTD, continuous sampling of a boring will be obtained at 3 foot (1 m) intervals to a pre-determined depth. Boring samples shall be retained for a minimum period of 90 days.

Boring logs which show evidence of SPT's in cohesive soils or tube samples in cohesionless soils will not be accepted.

Shallow soil borings for subgrade soil surveys can be made utilizing either hollow-stem or continuous-flight augers. Any other method shall be approved by the DOTD Pavement & Geotechnical Services Administrator prior to it being implemented.

Transport of samples from the field to the laboratory shall conform to ASTM D4220, Group C. Samples may not be extruded at the worksite. Sample tubes shall be transported vertically in the same orientation as they were sampled, with care taken to avoid excessive temperature variation, vibration, or any other sample disturbance. They shall be extruded in the laboratory in accordance by means of a continuous pressure hydraulic ram. Extrusion by any other method, such as water

pressure, is prohibited. Samples shall be extruded directly onto a sample trough, and shall not be caught with the hands.

**Laboratory Testing**

Soil mechanics laboratory testing shall be performed on at least 75 percent of all samples obtained from the borings. UU Triaxial compression and Atterberg limit testing shall be performed on at least 75 percent of the extruded cohesive samples.

If designated as required for the boring, consolidation tests shall be performed according to AASHTO T 216, and results shall be reported as graphs of "Void Ratio vs. Log of Pressure" and "Coefficient of Consolidation vs. Log of Pressure." Both plots may be shown on the same graph, if adequately labeled. Any sample from a clay layer that shows signs of being overconsolidated must be subjected to a load/rebound/re-load cycle during the consolidation testing, as per AASHTO T 216. Any sample selected for consolidation testing shall also have the specific gravity determined according to AASHTO T 100, and the Atterberg Limits determined according to DOTD TR 428, and with supporting results reported. Laboratory classification of soils from deep borings shall be in accordance with ASTM D 2487. All other sampling and testing shall be performed in accordance with current AASHTO test procedures, unless otherwise noted.

**Cone Penetrometer Testing**

The CPT rigs shall be capable of providing up to 20 tons reaction. Pore pressure measurements, when requested by the Project Manager, shall be obtained using U2 location, unless otherwise specified. Dissipation tests shall be performed until at least 50 percent of the excess pore water pressure has been dissipated. All CPT probes and equipment utilized shall have been calibrated within the previous year or within a period specified by the project manager. The cost of performing the calibration shall be the consultant's responsibility. The final CPT sounding results shall conform to the input format of LTRC's CPT-Pile software.

**Other Considerations**

The natural ground in elevation at the location of each borehole shall be determined to within 6 in. (0.15 m). These elevations maybe determined utilizing elevations of existing structures for landmarks that may be shown on the plans supplied. If DOTD has established a temporary benchmark (TBM) at the site, it shall be used in lieu of elevations shown on the plans.

Unless otherwise stated, it will be the responsibility of the Consultant to obtain consent from the respective landowners in order to enter onto private property. The process for contacting landowners and documentation for Consultant Entry will be discussed at the Consultant Kickoff meeting with DOTD personnel. In the case that consent is not granted, the Consultant shall contact the project manager to execute a Forced Entry, as per Louisiana Revised Statute 48:217. Forced entry access will be granted via written notice from the project manager.

**Deliverables**

Unless specified by the Project Manager, it will be the responsibility of the Consultant to obtain 3 or 4 mil polyester double matte film for use in reporting the geotechnical exploration results. The DOTD Pavement & Geotechnical Services Section will provide one sheet to the Consultant for use as an example of each format. The lettering used on the profiles shall be of such size and clarity that the

legibility of data can be maintained when reduced to fifty (50) percent of its original size. Soil profiles shall be grouped on the plan sheets according to the Construction Project Number(s). In addition to the paper submittal, electronic logs that can be imported into the gINT software for the electronic storage of the soil boring and CPT logs shall be submitted. All project deliverables shall become the property of DOTD upon successful completion of the above captioned project.

All reported test results, including each profile sheet, shall be sealed and manually signed and dated by the Professional Engineer in responsible charge of testing. The DOTD Pavement and Geotechnical Services Section will review the completed boring logs for completeness and accuracy prior to their final submittal.

**Geotechnical Engineering Analysis and Design**

All geotechnical engineering will be performed in accordance with present design requirements and standard engineering practice. These services are to include but are not limited to:

- Slope stability (embankment & excavation);
- Embankment settlement;
- Bridge foundations;
- Piles;
- Drilled shafts;
- Other foundations;
- Pile-supported approach slab design data;
- Bridge foundation static and dynamic load test program;
- Earth retaining structures; and
- Geotechnical analysis & design recommendations report.

**Landscape Architecture and Arborist Services** shall consists of developing tree protection plans and specifications, site supervision and construction observation, and post construction tree survey and damage assessment for live oak trees identified by DOTD and/or the commitments in the ROD. Services also include preparation of landscaping plans near the St. Genevieve Church and school and any services which may result from DOTD and FHWA approved context sensitive design solutions.

**Electrical design** shall consist of all engineering services to provide electrical lighting plans showing the locations of existing equipment (if applicable), removal of the existing equipment (if applicable), and the proposed location of the new equipment. Plans shall include but not limited to the following: service points, lighting controllers/panels, disconnects, any receptacles, pull boxes, underground junction boxes, conduit, jacked/bored casing, light poles, and luminaires. All new equipment & design must conform to:

1. LA DOTD Illumination & Electrical Standards
2. LA DOTD "A Guide to Constructing, Operating, and Maintaining Highway Lighting Systems"
3. IESNA/ANSI RP-8, PR-2098, and Lighting Handbook

4. LA DOTD Electrical Plan Layout and Presentation
5. Louisiana Standard Specifications for Roads and Bridges
6. National Electrical Code (NFPA 70)
7. Standard for Electrical Safety in the Workplace (NFPA 70E)
8. All other local and applicable codes

**Design services for Lafayette Regional Airport** shall, in accordance with Federal Aviation Administration (FAA) specifications, consist of performing air spacing and obstruction evaluations prior to and during construction of the Project, runway/taxiway/safety area extensions, ARFF/perimeter road relocation, new runway lights, runway end indicator lights, runway alignment indicator lights, pavement markings and Engineered Materials Arresting System (EMAS) all in accordance with Federal Aviation Administration (FAA) specifications. Services may also include assistance in preparation of an Environmental Impact Statement (EIS) and construction inspection services on the airfield for the above mentioned modifications.

**Traffic Engineering Analysis Services** shall consist of thoroughly reviewing the FEIS, ROD and the Briefing Package, Proposed Design Modifications to FEIS Selected Alternatives (April 16, 2008) and other documents, providing in depth analysis of the proposed modifications and recommending to the Department and FHWA which to carry forward to preliminary design.

Traffic Engineering would include intersection analysis at the ramp termini and intersection analysis along the intersecting corridors of the proposed I-49 corridor and the frontage road. These intersections would be determined by the District Traffic Operations Engineer in District 03. The latest version of Synchro and Sidra will be required dependent upon the analysis. All Traffic Engineering and safety policies shall be adhered to. The Highway Safety Manual shall be used for safety comparisons of the alternatives. The Project Manager will direct the Consultant as to the type of analysis and what MOE to compare for final alternative selection.

Vissim animations may be required dependent upon the alternative selected.
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**Geometric Design and Traffic Services** shall consist of thoroughly reviewing the FEIS, ROD and The Briefing package, Proposed design modifications to FEIS Selected Alternatives (April 16, 2008) and other documents, providing in depth analysis of the proposed modifications and recommending to the department and FHWA which to carry forward to preliminary design. All proposed designs shall be in accordance with the 2004 AASHTO Policy on Geometric Design of Highways and Streets (Green Book), The Road side Design Guide, all DOTD standard Plans (including but not limited to SC-01 and SC-02 Typical Speed Change Lanes for Interstates), all department EDSM's (including but not limited to V1.4.5.2 New Interchange Requests and V1.3.1.6 Installation of Traffic Signals). Consultant will also develop a permanent signing plan.

Traffic services to include all engineering, corridor studies, signal studies, roundabout studies, access management studies, and traffic signal inventories for the Project area. Any traffic modeling required will be developed to determine benefits of potential improvements such as geometric modifications or traffic signal installations/modifications. For comparison purposes, models will be developed depicting conditions before and after planned improvements for current, proposed and design year

AM and PM peaks. The latest version of Synchro/sim Traffic or VisSim will be required depending on the situation. The project Manager will direct the Consultant as to which model will be required and the process by which the model shall be calibrated. Benefits to be analyzed will include safety improvements (in accordance with the 2010 Highway Safety Manual) and congestion relief.

**Re-evaluation of the environmental document** shall consist reviewing the changes in the project, its surroundings and impacts, and any new issues identified since the ROD was approved. Field reviews, additional environmental studies (as necessary), and coordination with other agencies should be undertaken (as appropriate to address any new impacts or issues) and the results included in the written evaluation. This work shall include documentation of the commitments made in the ROD and preparation of a implementation plan.

**MINIMUM PERSONNEL REQUIREMENTS**

The following requirements must be met at the time of submittal:

1. At least one Principal of the Prime-Consultant shall be a Professional Engineer registered in the State of Louisiana.
2. At least one Principal or Responsible Member of the Prime-Consultant shall be a Professional Engineer registered in the State of Louisiana with a minimum of ten year's experience in responsible charge of Bridge Design Projects.
3. At least one Principal or Responsible Member of the Prime or Sub-Consultant shall be a Professional Engineer registered in the State of Louisiana with a minimum of ten year's experience in responsible charge of Road Design Projects.
4. At least one Principal or Responsible Member of the Prime or Sub-Consultant shall be a Professional Engineer registered in the State of Louisiana with a minimum of ten year's experience in responsible charge of geotechnical engineering projects.
5. At least one Principal or Responsible Member of the Prime or Sub-Consultant shall be a Professional Land Surveyor registered in the State of Louisiana with a minimum of ten year's experience in responsible charge of topographic surveying projects.
6. In addition, the Prime-Consultant must also employ on a full-time basis, or through the use of SubConsultant(s):
    a. One Registered Professional Civil Engineer, (PTOE) registered in the State of Louisiana, with at least five years of traffic analysis experience with signal warrants and signal timing, and a corresponding support staff.
    b. One Professional Civil Engineer, registered in the State of Louisiana with a minimum of five years experience in preparation of highway roadway plans.
    c. One Professional Land Surveyor registered in the State of Louisiana, with at least five years experience in conducting topographic and property surveys, and preparing right-of-way maps for DOTD, and a corresponding support staff. Personnel used for title work must be listed on the current LADOTD Real Estate Section's approved Title Work Panel list.
    d. Two Professional Civil Engineers, registered in the State of Louisiana with a minimum of ten years experience in complex bridge design, knowledge of the segmental bridge design is preferred, and a corresponding support staff.
    e. One Professional Civil Engineer, registered in the State of Louisiana with a minimum of five years of geotechnical engineering experience.
    f. One Professional Electrical Engineer, registered in the State of Louisiana, with a minimum of five years experience designing roadway lighting. The last 3 years must contain design of Louisiana DOTD projects, and a corresponding support staff.
    g. One Professional Civil Engineer registered in the State of Louisiana, with a minimum of five years experience managing Subsurface Utility Engineering (SUE) services in support of roadway and bridge design on transportation projects, and a corresponding support staff.
    h. One Professional Civil Engineer registered in the State of Louisiana, with a minimum of five years experience in roadway design, and a corresponding support staff.
    i. One Professional Civil Engineer with 5 years experience in aviation and airport related planning and a corresponding support staff with a personnel with 5 years of experience in working with Advisory Circular 150-5300-13A Airport Design, Terminal Instrument

Procedures (TERPS) FAA Order 8260.3B, and FAR part 77 Objects Affecting Navigable Airspace.

j. One Environmental Professional experienced in the preparation of documents in accordance with the National Environmental Policy Act (NEPA) for the Federal Highway Administration (FHWA). DOTD requires that all Project Managers performing NEPA work take the NHI Course No. 142005, "National Environmental Policy Act (NEPA) and Transportation Decision Making", or an equivalent course approved by the DOTD Environmental Administrator.
k. One Environmental Professional with a minimum of five years of experience with traffic noise analysis for highway projects.
l. One Environmental Professional with a minimum of five years of experience with mobile air quality analysis for highway projects.
m. One wetlands biologist with a degree in biology or a related field and three years experience in wetland delineations.
n. One Principal Investigator for the archaeological work must meet the Archaeological Qualifications as published in the Louisiana Register on April 20, 1994.
o. A Responsible member of the Consultant's team must have taken the course on Section 106 of the National Historic Preservation Act offered by the Advisory Council on Historic Preservation or its equivalent training.
p. Ecological, archaeological, and other environmental professionals as required for the performance of a significant portion of this work.